United States Court of Appeals

for the

District of Columbia Circuit

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DISTRICT OF COLUMBIA
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United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA.

April Term, 1937
No. 7029.

204

CARBIDE AND CARBON CHEMICALS CORPORATION and RALPH B. FRAZIER,
Appellants.

v.

CONWAY P. COE, COMMISSIONER OF PATENTS,
Appellee.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES
FOR THE DISTRICT OF COLUMBIA.

BRIEF FOR APPELLANTS.

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United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA.

CARBIDE AND CARBON CHEMICALS CORPORATION and RALPH B. FRAZIER, Appellants, v. CONWAY P. COE, COMMISSIONER OF PATENTS, Appellee.	APRIL TERM, 1937. No. 7029.

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES
FOR THE DISTRICT OF COLUMBIA.

In Equity No. 59,934.

BRIEF FOR APPELLANTS.

Statement of the Case.

This is an appeal from a decision of the District Court of the United States for the District of Columbia dismissing a Bill of Complaint brought by Carbide and Carbon Chemicals Corporation and Ralph B. Frazier against Conway P. Coe in the latter's official capacity as Commissioner of Patents of the United States. The Bill of Complaint was duly filed under the provisions of the Revised Statutes, Section 4915 (35 U. S. C. A. 63, as amended).

The Bill of Complaint is concerned with an application for Letters Patent Serial Number 605,129, filed April 13, 1932, by the plaintiff (appellant), Ralph B. Frazier, for improvements in "Food Packages" invented by him. This application for patent, and the invention, were assigned, *in* *toto,* to the co-plaintiff (appellant), Carbide and Carbon Chemicals Corporation, by a deed duly recorded in the United States Patent Office. The Bill relates to all of the claims contained in that application, and these are numbered 4, 5, 6, 7, 8, 11, 13, 14, and 22.

The invention involved is a metallic package or container for foodstuffs and beverages in which the metal surfaces next to the food product are provided with a surface of vinyl resin which provides unique protection of the product from contact with or contamination by the metal, and it at once protects the metal from attack by the foodstuff. The invention may take the form of a metal foil wrapping for solid or near-solid products, or a metal can for packaging liquid materials. Familiarly, the invention is embodied in vinyl resin coated metal foil wrappings for processed cheese, and in metal cans interiorly lined with the vinyl resin for containing orange juice or beer.

What the appellants respectfully contend is that the defendant (appellee), the Honorable Commissioner of Patents, wrongfully continues to withhold a patent to the appellants on the invention defined by the claims mentioned above.

The appellants do not claim that this invention is the first instance in which a lining has been proposed for metallic packaging materials, or the first use of vinyl resins as a coating substance. What is claimed is that the appellant, Ralph B. Frazier, was the first to discover the novel combination of a metal package for food products combined with the coating of vinyl resin adjacent the foodstuff whereby the unsuspected results were attained which resulted in wholly novel food packages not theretofore possible. Appellants further assert that this invention brought about success out of failure, and so advanced the art of packaging difficultly preservable products as to make possible foods packaged in metal which no one could have so packaged in the absence of the information disclosed by appellants' application for patent. Under these circumstances, it is submitted, the appellee has wrongfully withheld a patent from the appellants.

It is contended by the appellee, the Honorable Commissioner of Patents, that it was not invention to form a wrapping for a food product by coating metals with a vinyl resin, and that, in view of seven prior United States patents, the appellants have produced no invention, or unobvious substitution, in substituting vinyl resins for coatings previously proposed for use in connection with foods. All of this the appellants emphatically deny, and the testimony taken for appellants (plaintiffs) before the Honorable District Court conclusively proves, it is submitted, that the food packages disclosed and claimed by appellants possess new properties which are unexpected and characteristic only of appellants' combination, and that the substitution of materials, if such it be considered, was an unobvious one which wrought substantial advance in the art and which accomplished a change in kind, not merely in degree.

No testimony was taken on behalf of the appellee (defendant), and the defense rested on the prior art and reasons relied on by the Patent Office Board of Appeals in sustaining the rejection of appellants' claims. The Honorable Court below dismissed the appellants' Bill, without indicating in what respect, if any, the prior art adduced by the defense so informs the public as to deprive appellants' improved food package of the status of invention. This decision, it is submitted, is directly contrary to a great weight of completely credible and unimpeached evidence.

Description of the Invention.

(Page Numbers Refer to the Printed Transcript of Record.)

The invention described and claimed in the appellants' application is a new and useful metal package for foodstuffs having such unusual characteristics as to provide a means for packing many products in metallic materials which otherwise could be packaged only in glass, if satisfactorily contained in any type of container. This new food package is created by the combination of metallic materials with vinyl resins, and it is only this combination which permits the benefits of the invention to be reaped. The desirability of using metallic materials for containing food products, beverages, and the like is obvious because metals permit the container to be light in weight and of minimum bulk, while at the same time it is strong, wholly impervious to both escape of the contained product and contamination of the contents by outside agencies, including even light rays, and attractive in appearance, or readily adorned for eye-appeal. Most metals, however, are substances of appreciable chemical reactivity, and many foods and beverages contain or are composed of reactive materials. It is, therefore, not feasible to attempt to preserve food products in contact with metals if the products themselves are capable of attacking, or reacting with, the metal either to impair the taste, odor, and even the edibility of the products, or to damage the metal of the container, or, as is usually true of such active products, to injure both the packaged product and the metal package. Not all food products and beverages possess such an active nature, and the appellants' invention is directed almost exclusively to those which are in this special class.

The new food packages involved here overcome the difficulties which are made apparent above by insulating those active foodstuffs and beverages which would otherwise attack metals, or be themselves impaired, from the metal of the containers by a thin layer, or coating, or a lining surface, essentially composed of a vinyl resin. The appellant, Ralph B. Frazier, unexpectedly discovered that vinyl resins possess such unusual qualities of total inertness with respect to foods, beverages and like products as to permit these products to be contained in contact with the vinyl resins without suffering any impairment or deterioration as a result of that contact. This discovery was the basis of appellants' invention, and the change which it brought about in the art of packaging foods and beverages has been far reaching.

Vinyl resins are artificial substances made by the polymerization of certain vinyl esters or mixtures of vinyl esters. These resins may be formed by any one of several known processes, and the resins and methods of making them are not a part of appellants' invention. Vinyl resins are clear, substantially colorless materials that are softened by heat and which reharden when cooled. They may be dissolved in various solvent liquids to form varnish-like compositions, and they can be manipulated generally in accordance with procedures by which plastic materials are treated and handled. The vinyl resins which are preferred for use in appellants' invention are those which are formed by the conjoint polymerization (by which is meant polymerization of a plurality of compounds while in mutual contact) of a vinyl halide with a vinyl ester of an aliphatic acid. Products of the conjoint polymerization of vinyl chloride with vinyl acetate in proportions ranging from 60% to 90% by weight of chloride are especially desirable (p. 28, ll. 24 to 28, and p. 37). The vinyl resins may be modified if desired by adding softening agents, pigments, or the like to the compositions containing them, but in most instances, where it is desired to provide the maximum protection for the food product and metal package, the resin should be used alone.

The invention is carried out by applying a solution of the vinyl resin to the metal packaging material. The solvent is then eliminated by drying, and thereafter the dried film may be baked to insure adequate adhesion to the metal. The resin coating may be applied to the metal in the flat state, after which it is shaped to form the desired package, or the container may be first formed from the metal and then interiorly lined with vinyl resin. In the case of the foil wrappings, the former procedure is usually employed, while cans intended to contain liquids are usually coated after being formed (p. 24, ll. 22 to 40; p. 26, ll. 18 to 21; p. 38, ll. 1 to 10; and p. 41, Example III).

The result of the simple and straightforward procedure just described is a package for difficultly preservable food products and beverages which is so vastly superior to any previously conceived article of this class that it received widespread recognition despite the fact that it is more expensive to employ (p. 21, last line, to p. 22, l. 3), and in the absence of the usual aids to commercial recognition which take the form of intensive advertising and promotional campaigns (p. 21, ll. 1 to 5 from the bottom). In fact, the qualities of appellants' invention are so distinctive that no substitute for it is known (p. 22, ll. 3 to 7 and ll. 38 to 40; p. 23, ll. 10 to 12; and p. 24, ll. 16 to 21). The peculiar utility of this novel combination of materials to form a metal package for foodstuffs was unpredictable and unobvious even to those familiar with the uses of vinyl resins and other coating materials and acquainted with the need for such a combination (p. 19, ll. 1 to 6 and ll. 26 to 33; p. 20, ll. 32 to 35; and p. 25, last line, to p. 25, l. 7).

Errors Assigned.

The appellants contend that the Honorable District Court below erred in dismissing the Bill of Complaint herein and in failing to enter a decree adjudging that the appellants are entitled according to law to receive Letters Patent on the applications of Ralph B. Frazier, Serial No. 605,129, filed April 13, 1932, as specified in the claims numbered 4, 5, 6, 7, 8, 11, 13, 14, and 22 recited in said Bill. On this error are based grounds I, II and VI on pages 12 and 13 of the Record.

The appellants further contend that the Honorable District Court erred in holding that the subject matter of the claims 4, 5, 6, 7, 8, 11, 13, 14, and 22 of the aforesaid application Serial No. 605,129 is unpatentable to appellants herein over any of the prior patents Nos. 1,057,552 to Howell; 1,369,159 to Beatty; 1,529,170 to Conomos; 1,765,920 to Humpert; 1,241,738 to Klatte *et al.*; 1,775,882 to Young *et al.*; and

1,837,555 to Kratz, adduced by the appellee. Ground III, page 12 of the Record, is based thereon.

The appellants also insist that the Honorable Court below erred in holding that it was not invention to form a wrapping for a food product by coating a metal sheet, such as tin foil, with a vinyl compound, and that it was not invention to coat such a sheet with a vinyl resin, such as the polymerization product of vinyl acetate and/or vinyl chloride, and that it was not invention to include a food product in such a wrapper. On this error are based grounds IV and V on pages 12 and 13 of the Record.

Points of Law and Fact to Be Discussed.

It is the position of the appellee as expressed in the decision of the Patent Office Board of Appeals (pp. 117 and 118) that the food package defined in appellants' claims is not patentable because there was no invention in using vinyl resins as the resin for coating the metal foils shown by the Humpert patent, or in substituting vinyl resins for the shellac specifically mentioned by Humpert. This appellants deny, because the prior patents relied on contain no suggestion whatever of the use of vinyl resins for coating any metallic portion of a food container. Moreover, if appellants' invention be regarded as the substitution of vinyl resins for the shellac shown in the Humpert patent (p. 108), it was such a substitution as brought forth unexpected and unobvious advantages and created an entirely new product that very materially advanced the art. Appellants' position in this respect is well supported by precedent, for instance by the following cases: *In re Harbeck,* 39 App. D. C. 559; *In re Huff,* 48 App. D. C. 258; *In re Wilson,* 49 App. D. C. 76; 258 Fed. 976, 977; *In re Sorum,* 49 App. D. C. 360; 265 Fed. 1000, 1002; *Gasoline Products Co., Inc.* v. *Coe,* 66 App. D. C. 333; 87 F. (2d) 550, 556-7; *Smith* v. *Goodyear Dental Vulcanite Co.,* 93 U. S. 486; 494; *Yablick* v. *Protecto Safety Ap-*

pliance Corp., 21 F. (2d) 885, 887 (C. C. A.); *United Shoe Machinery Corp.* v. *E. H. Ferree Co., et al.,* 64 F. (2d) 101, 103 (C. C. A.); *Ex parte Joseph and Nedvidek,* 25 U. S. P. Q. 20, 22 (Patent Office Board of Appeals).

The appellee further asserts, in the decision of the Patent Office Board of Appeals (pp. 117 and 118), that claims to appellants' new food package should be denied on reference to the patents to Humpert (p. 108), Conomos (p. 107), Beatty (pp. 103 to 106), and Howell (pp. 95 to 97), which show foodstuffs wrapped in tin foil, in view of Klatte *et al.* (pp. 98 to 102), Kratz (pp. 111 and 112), or Young *et al.* (p. 109), who disclose the use of vinyl [resins] in coating compositions. Appellants insist that this position is untenable in view of the uncontroverted evidence adduced below which, it is submitted, establishes not only the novelty, but the high degree of unpredictable advance created by the particular combination forming the subject of appellants' claims. This assertion by the appellee amounts to an argument that the isolated teachings of the prior art may now be combined to reach a *nunc pro tunc* solution of the problem solved by appellants' invention. This clearly is contrary to the spirit and letter of the law. (*In re Lower,* 50 App. D. C. 159; 269 Fed. 675, 676; *In re Prescott et al.,* 51 App. D. C. 281; 278 Fed. 590, 591; *In re Wescott,* 53 App. D. C. 34; 287 Fed. 1009, 1011; *In re Coley,* 40 F. (2d) 982, 986 (C. C. P. A.); *In re Dann,* 47 F. (2d) 356, 358 (C. C. P. A.).

Appellants further respectfully urge that the evidence adduced in their behalf before the Honorable District Court below shows that the novel food package defined in the claims of their application has met with substantial commercial success as a result solely of its merit. The unrebutted testimony of expert witnesses has shown that appellants' invention was widely accepted,—*that it has no known counterpart,*—and was accepted despite the fact that it is more expensive to use. All this, it is submitted, is evidence highly persuasive of patentability, and more than adequate to overcome the appellee's contention (p. 118, ll. 28 to 30) that the inventor made a mere obvious substitution. This view has firm support in precedent, for example in the following cases: *In re Wilson,* 49 App. D. C. 76; 258 Fed. 976, 977; *In re Lower,* 50 App. D. C. 159; 269 Fed. 675, 676; *In re Wescott,* 53 App. D. C. 34; 287 Fed. 1009, 1011; *Wach* v. *Coe,* 64 App. D. C. 235; 77 F. (2d) 113, 115; *Magowan* v. *New York Belting Co.,* 141 U. S. 332, 343; *Yablick* v. *Protecto Safety Appliance Corp.,* 21 F. (2d) 885, 887 (C. C. A.).

The References.

In answer to the Bill of Complaint, the appellee (defendant) cited the following prior patents, and he alleged that appellants' claims 4, 5, 6, 7, 8, 11, 13, 14, and 22 are not patentable over these references:

Howel	1,057,552	April 1, 1913
Klatte *et al.*	1,241,738	October 2, 1917
Beatty	1,369,159	February 22, 1921
Conomos	1,529,170	March 10, 1925
Humpert	1,765,920	June 24, 1930
Young *et al.*	1,775,882	September 16, 1930
Kratz	1,837,555	December 22, 1931

Copies of these seven patents appear in the printed Transcript of Record at pages 95 to 112.

These prior patents may be grouped into two general classes,—those which show metal foils in the general relation of wrappings for food products comprising Howell No. 1,057,552, Beatty No. 1,369,159, Conomos No. 1,529,170, and Humpert No. 1,765,920; and those which relate to the production of vinyl resins or to their use as coating materials, namely, Klatte *et al.* No. 1,241,738, Young *et al.* No. 1,775,882, and Kratz No. 1,837,555. There is utterly no connection between the two groups of disclosures. These patents contain not the faintest hint that vinyl resins would serve to protect food products from contact with metal packaging materials or to protect metal packages from attack by active food products. For all that is shown by these prior patents, vinyl resins in contact with metals might have given rise to the worst form of packaging material or have been completely unusable in this connection. At least one of the prior patents (Young *et al.* No. 1,775,882) shows a method of forming vinyl resins which would result in a product completely unsuited for contact with food products since it might render the product dangerously toxic.

Thus, it will be shown below that the alleged anticipation of appellants' invention, which the appellee contends is found in these prior patents, does not actually reside in what is shown within the boundaries of their disclosures, but is obtainable from them only by undue inflation of their teachings in a manner unwarranted by the proper application of the doctrines of patent law.

Howell Patent 1,057,552.

This patent was granted in 1913 on an application filed January 3, 1905. It shows a food package formed of thin, flexible, non-elastic, soft tinfoil coated with paraffin. It is urged by the patentee that this coating of paraffin prevents discoloration or contamination of the food products by the metal surface. The material may be used to package unpreserved cheese, and, according to the patentee, it protects the cheese so packaged by the presence of the close-fitting paraffin seal carried by the tinfoil. There is no suggestion in the patent of the use of any such closely adherent, tough, flexible and completely inert material as appellants provide for use in this invention. It is well known that paraffin does not possess the requisites of a food-protecting material which can be used in contact with such widely varying materials as cheese, orange juice, pickles, beer and so on through the list of comestibles which could not heretofore, or which through the use of this invention may for the first time, be packaged in metallic containers. Coatings of paraffin will not stand the conditions of use which involve low temperature, since paraffin becomes brittle and friable when cooled. Nor can paraffin stand prolonged contact with the various oils of food products which might be packaged in metallic containers and which will dissolve the paraffin. A paraffin coating is not sufficiently permanent since it becomes non-adherent under many conditions, and foil coated with it cannot be flexed in the ordinary ways to form a wrapper for food products (p. 26, l. 41, to p. 27, l. 9). Moreover, it is significant to note that, while this patent to Howell has been available to the public for nearly a quarter of a century, prior to the advent of appellants' invention, at least one large concern did not use any form of coated foil (p. 27, ll. 15 to 19).

The appellee has never advanced the contention that paraffin wax and vinyl resins are equivalents, and it is clear that such definitely is not the case. The patent to Howell makes some point of the fact that the foil coating is "non-elastic" (p. 96, l. 13 of the patent). Vinyl resins, on the contrary, are capable of being used on materials in which they do not remain in fixed relation, since they are tough, strong and sufficiently resilient to conform to deformations of the metal packaging material. The characteristic of the material described in the Howell patent is essentially that of preventing contact of air with the material packaged. The use of a paraffin seal for this purpose is logical, but appellants' invention goes much further and provides a class of protection through its inertness and unexpected utility which is not dependent upon forming a hermetic seal over the material, but is based on the provision of an absolutely inert and permanent protecting surface between metallic packaging materials for all sorts of food products whether rigid as in cans or flexible as in metal foils.

Klatte et al. Patent 1,241,738.

Patent 1,241,738, granted October 2, 1917, contains the disclosure of a valuable invention by a famous chemist. It was Fritz Klatte who a few years earlier disclosed for the first time an entirely new class of chemical compounds, to wit, the organic esters of vinyl alcohol, and in the patent under discussion he teaches the formation of polymerized products or resins made from these esters. The patent's disclosure is comprehensive, and it shows a number of treatments by which valuable products can be made from vinyl esters. It teaches that polymers of vinyl halides are brittle, chalk-like masses, and shows their modification with solvents to make tough products from them. It teaches the catalyzed polymerization of vinyl aliphatic esters to obtain materials which are characterized as celluloid substitutes suitable for molding into formed articles, or as the ingredients of lacquer-like compositions.

At no point in the Klatte *et al.* patent is there any mention of vinyl resins in connection with food products or as coatings for metallic materials. Klatte *et al.* teach that solutions of vinyl resins may be used for coating or impregnating purposes on porous substances such as wood, paper, textile fabrics, artificial stone or the like. The articles thus treated are stated to be resistant to external influences, for example, capable of resisting the action of water, acids, alkalis and atmospheric changes (p. 99, ll. 110 to 129 of the patent). Surely, in such a complete treatise on the formation, properties and uses of the vinyl resins as is provided by this patent, the significant omission of all suggestion of the use of these materials in contact with food products cannot pass unnoticed. It seems incomprehensible that investigators of the standing of Fritz Klatte and his associates would pass over such an important use of the materials without a word if in fact they knew or suspected its existence.

Moreover, the Klatte *et al.* patent states that the vinyl resins can be formed into articles of the desired shape by conducting the polymerization in a suitable mold, for instance, one of glass, so that the articles are obtained directly from the mold (p. 98, l. 98 of the patent to p. 99, l. 4 of the patent). While this statement has no concern with the possible coating of metals with vinyl resins, it is a persuasive indication that Klatte *et al.* either formed products which did not adhere to smooth surfaces such as those of metals and glass, or that they believed such to be the case. There is nowhere in the patent any mention of any product disclosed by Klatte *et al.* as a coating over metallic materials.

In short, appellants contend that the Klatte *et al.* patent adds nothing to the appellee's contention of an anticipation to be found in these seven prior patents. If anything, the patent to Klatte *et al.* contains evidence of the unexpected nature of appellants' invention since it represents the contribution of a highly skilled worker with the vinyl resins and is conspicuously silent with respect to any possible adaptation of vinyl resins as materials for coating metals or for use in contact with food products.

Beatty Patent 1,369,159.

In patent 1,369,159, Beatty provides a moisture-proof package for chewing gum and the like, which includes a wrapping of tinfoil. This package does not involve any kind of a coating on the foil on the side next to the product packaged. Obviously such a disclosure is entirely irrelevant to appellants' invention. Beatty does propose to seal the package at the edges where the foil is wrapped by means of a wax seal, and in some cases he states that the entire package may be dipped in wax to effect this seal. He also states that an inner wrapping may be used within the foil package to separate the package from the foil itself. This lining may be paper, but in any event it is separate from and not attached to the foil itself. This package disclosed by the patentee Beatty is in the first place concerned with products which do not require protection from packaging materials whether they be metal or otherwise, and obviously it cannot have any relation to metal packages for food products in which protection of the metal from the food and the food from the metal is desired. It is more nearly than anything else the exact opposite of appellants' invention. It is believed that it requires no further discussion, since there is no reasonable way of discovering from the teachings of this patent anything even remotely related to this invention.

Conomos Patent 1,529,170.

Patent 1,529,170 is concerned with a procedure and with products entirely foreign to appellants' invention. In brief, Conomos interposes a layer of gelatin between food products and wrapping materials for them. For example, he discloses painting or dipping candy or the like with a hot solution of gelatin, which is then wrapped "in paper or other sheet material while the gelatine is still wet" (p. 107, ll. 88 and 89 of the patent). As an alternative to this procedure, Conomos states that he can apply a hot solution of gelatin to paper or other wrapping material, and then wrap the article to be packaged in such a way "that the still liquid gelatine is brought into contact with every part of the surface of the article" (p. 107, ll. 38 to 40 of the patent).

This patent was presumably cited by appellee against appellant's claims because the patentee mentions, among the sheet materials he may employ, metal foils as well as paper. Despite this fortuitous mention of metallic packaging materials it is difficult to conceive of a less relevant disclosure than is contained in the Conomos patent. Appellants' invention is intended to, and does, function to protect food products against all kinds of deterioration, but especially that induced by contact with metal. Conomos' disclosure functions only to protect the packaged article from contact with air: "According to my present invention I use gelatine as an agent for excluding air and moisture from perishable articles" (p. 107, ll. 24 to 26 of the patent).

As further evidence of the remoteness of Conomos' teachings from appellants' invention, the following passage is significant: "I prefer to employ gelatine alone as the coating material because it is edible and will not be harmful to the consumer if particles thereof *adhere to the wrapped article* *when the wrapper is removed.*" (p. 107, ll. 74 to 78 of the patent; italics ours.) Certainly it will be plain from appellants' disclosure that nothing is further from the case than any equivalency of this invention to that of Conomos, who has such an impermanent liner for his package that may be removed *on the product* and not remain with the packaging material.

Gelatin (the *only* coating material suggested by Conomos) is soluble in water (p. 107, ll. 51 to 53 of the patent). This was further shown by the testimony of Mr. Doolittle, an expert in the field of coating materials (p. 27, ll. 28 to 30). Gelatin additionally is an excellent culture medium for bacteria, and it is plain that a coating of gelatin could not protect a packaged food product against bacterial decay (p. 27, ll. 26 to 28). If further evidence is required of the utter lack of equivalency between gelatin and the vinyl resins employed by appellants, it must be noted that gelatin will not adhere to metals (p. 27, ll. 30 and 31), and metal packaging materials coated with it could not be shaped and formed and handled as is required in the conduct of this invention.

One of the most extensive and severe uses in which appellants' invention has successfully proven itself is its adaptation to the formation of lined metal cans for containing such extremely delicate and difficultly preservable beverages as beer and orange juice (p. 21, ll. 28 to 31, and p. 24, ll. 16 to 21). It is plain that the use of gelatin in any connection as taught by Conomos could not bring to mind the successful packaging of such beverages as these, since gelatin if used as a lining would dissolve in the liquid (p. 27, ll. 33 and 34).

Humpert Patent 1,765,920.

This Humpert patent, which appeared in 1930, has been relied on by the appellee in his wrongful denial of appellants' claims to a greater extent than any of the other six patents cited. Humpert is concerned with a wrapping material for articles of food which consists of tinfoil provided with a coating of shellac, which may be modified by incorporating with it salicylic acid. The only food specifically mentioned by Humpert is cheese, and he states that the function of salicylic acid is to prevent the forming of mold on the cheese. The object of the Humpert patent is to avoid darkening of the foil and cheese or both due to attack of the foil by the cheese packaged in it. It is interesting to note that in his disclosure Humpert acknowledges the prior use of gelatin as an interposed film between the cheese and foil for this purpose, presumably referring to the Conomos patent discussed above, but he states that the lack of success of a gelatin coating is due to its tendency to adhere to the cheese rather than to the foil. Humpert states that he overcomes this objection through the use of shellac rather than gelatin, and it is probably a fact that shellac adheres to the foil far better than gelatin.

Shellac is a natural resin and is very brittle. It does not have the toughness, flexibility and resiliency to undergo and withstand the continuous flexing which is expected of a foil wrapper (p. 27, ll. 37 to 40). Because of the good adherence of shellac to foil, it would not, like wax, flake off and contaminate the food even if it were cracked due to its brittleness. However, it is apparent that a cracked and discontinuous coating would no longer protect the food product. It is evident that Humpert himself realized that shellac is but an imperfect protection, for the opening discussion in his patent explains that the disadvantage of uncoated tinfoil is that the cheese becomes darkened and a deposit of metallic sulfide sticks sometimes to the cheese. He states further that these deposits cannot justly be considered as injurious, but their disadvantage lies in the fact that non-experts might regard them so (p. 108, ll. 5 to 13 of the patent). He then states that shellac overcomes this difficulty and produces a wrapping for foods which is "capable of resisting organic acids, and especially *metallic sulfides*" (p. 108, ll. 23 to 25 of the patent; italics ours). It is clear that there would be no metallic sulfides from which the food would require protection if Humpert's shellac coating actually precluded contact of the cheese and metal foil (p. 28, ll. 3 to 6).

While the Humpert disclosure does not go beyond the coating of foils to obtain the superficial protection which he admits is all that is secured, the appellee has apparently interpreted this disclosure as also being capable of anticipating those phases of appellants' invention which are concerned with metal cans interiorly lined for containing liquids. Nothing could be further from the case, since shellac, as taught by Humpert, would be entirely unsuited for use in cans because it is readily penetrated by the aqueous liquids which are the basis of most fluid food products. This lack of resistance on the part of shellac to liquids would be increased if the addition of salicylic acid to the coating as taught by Humpert were adopted (p. 28, ll. 6 to 8). The enormous deficiency and complete failure of shellac films when exposed to contact with water has been established by appellants through the tests conducted by an expert (p. 28, l. 8, to p. 29, l. 2, and Exs. 7 and 8, pp. 89 and 91).

Young et al. Patent 1,775,882.

This patent is concerned with a process by which vinyl compounds may be polymerized to form vinyl resins. The particular vinyl compounds with which it deals are the same as those with which appellants are concerned in the practice of this invention. The method shown by Young *et al.* in patent 1,775,882 is *not* suitable for forming resins to be used in the practice of appellants' invention.

Briefly, Young *et al.* show the polymerization of such materials as vinyl chloride or vinyl acetate or the conjoint polymerization of these two compounds through the aid of a catalyst composed of lead tetraethyl. This catalyst is itself well known in other connections since it is the added ingredient in ethyl gasoline. In common with all lead compounds, it is poisonous and it would not be permissible in contact with any food product. Young *et al.* show that ordinary films containing vinyl resins have pronounced tendencies to disintegrate when heated, and this is especially true when the films are in contact with metal (p. 109, ll. 30 to 36 of the patent). It is stated in the patent that "Films containing resins prepared with tetraethyl lead are more stable in contact with metals" (p. 109, ll. 40 to 42 of the patent). This statement has been seized upon as a basis for the appellee's contention that it is old to coat metals with vinyl resins. Appellants insist that there is nothing in the Young *et al.* patent except that which would lead the investigator in this art directly away from the use of vinyl resins in contact with metals. In the first place, this patent teaches that ordinary vinyl resins are not well adapted for use in contact with metals since they tend to decompose when heated in such contact. In the second place, it teaches that, while resins made by its procedures are more stable, this is due to their particular method of formation in which is used a highly poisonous substance, tetraethyl lead.

Kratz Patent 1,837,555.

In patent 1,837,555, Kratz describes the use of vinyl resins for rendering clear sheets of gelatin more or less moisture-proof. There is shown in the Kratz patent the application of solutions of vinyl resins to sheets of gelatin to produce on the surface of the gelatin a thin coating of the vinyl resin. Kratz states that it is desirable to use as solvents in applying the vinyl resins a material which is also a solvent for the gelatin sheet in order that the coating will be secured more firmly to the sheet. Much has been made of this Kratz disclosure since it is the only thing relied on by the appellee which in a single document mentions both vinyl resins and food products of some types. Yet nothing is better proof of the complete lack of equivalency between vinyl resins and gelatin (as shown by Conomos (p. 107), for example) than this Kratz patent.

Kratz explains that he intends to use his transparent gelatin sheets as wrappings for candy, bon bons, and the like, much in the same way as the commoner product "Cellophane" is customarily employed. Because of the well known lack of resistance of gelatin to moisture, he wishes to provide greater protection of the product enclosed in the gelatin sheet from moisture by impregnating his gelatin sheet or coating it with the vinyl resin. There is no suggestion by Kratz that the vinyl resins in the absence of gelatin could be used in contact with food products, and he does not suggest that the protection enjoyed by the food is due in any way to the vinyl resin except that it serves the purpose of rendering the gelatin less permeable to moisture.

In this connection, Kratz states that films of gelatin can also be moisture-proofed by coating them with such cellulose esters as cellulose nitrate. He states, however, that these coatings have the objection of being fairly expensive (p. 111, ll. 19 to 25 of the patent). It is, therefore, clear that the only teaching made by Kratz so far as this invention is concerned is one of equivalency between coatings of vinyl resins and those of cellulose nitrate insofar as their function in *his invention* is concerned. That these coatings are *not* equivalents for the purpose of *appellants' invention* has been shown (p. 19, ll. 18 to 22).

The References Do Not Teach the Invention.

No one of the seven prior patents discussed above is adequate to convey even to the most highly skilled in this art the essence of appellants' invention. There is no teaching to be gleaned from these seven prior patents alone or indiscriminately combined from which, unaided, this invention could be created. It is only through the application of the teachings of the appellant, Ralph B. Frazier, as found in his application Serial No. 605,129, to the discordant and unrelated disclosures of these prior patents that the most remote suggestion of this invention can be derived. To so reconstruct the references in the light of the application in suit contravenes the most elementary doctrines of patent law and is improper. It amounts to an unwarranted extension of what is shown by the prior patents, and it requires an elaborate inflation of the meaning of the disclosures of those patents. In short, it would itself amount to invention of high order.

There is some doubt as to the exact position assumed by the appellee in denying appellants' claims to their invention. This position, as set forth in the Statement of the Examiner (p. 115, ll. 23, to p. 116, l. 11), apparently is based on the alleged obviousness of the use of vinyl resins as shown by Klatte *et al.*, Young *et al.*, and Kratz in coating metallic packaging materials as shown by the other patents cited. A similar position is indicated in the decision of the Patent Office Board of Appeals (p. 118, ll. 15 to 19), but in this same decision there is some indication that the entire ground for denial of appellants' claims is founded on the assumption that it was obvious and without invention to substitute vinyl resins for the shellac specifically mentioned in Humpert patent 1,765,920 as a coating for tinfoil (p. 118, ll. 25 to 30).

In either case, appellants urge that it was error so to deny claims to their invention. The novelty of the combination of vinyl resins with metallic packaging materials in forming a food package as set forth in the claims sought by appellants cannot be denied. The appellee has apparently conceded this, since at no point in the proceedings, either in the Patent Office or in the Honorable District Court below, has it been suggested that any of the seven prior patents shows such a combination. The utility of appellants' invention has actually been conceded by appellee through statement of counsel for defendant in the Honorable District Court below (p. 30, ll. 28 to 33). Appellants have further shown that the use of vinyl resins in the connection now claimed as their invention did not suggest itself without experimentation to those interested in developing uses for vinyl resins (p. 20, ll. 30 to 35) and did not occur to one who knew of the existence of the need for such a coating and was an expert in the field of coating materials (p. 26, ll. 3 to 5, and p. 30, ll. 12 and 13).

It is respectfully contended that this state of facts is sufficient without further consideration to justify the grant of a patent to appellants, containing the claims enumerated in the Bill of Complaint. It will be shown additionally that the invention of appellants brought about unpredictable advantages and that through it were secured new and unobvious results. In such case it is clear that a patent should issue.

Appellants Secure New and Unobvious Results.

If the statement of this heading is true, appellants are entitled to a patent, for it has been shown that what is claimed is novel and useful. An abundance of proof to this end was adduced on behalf of the appellants (plaintiffs) before the Honorable District Court. This evidence will be here summarized, and it will be shown that it brings this invention squarely within the established doctrine of the law as created in precedent.

In denying appellants' claims, the Patent Office Board of Appeals said: "Appellant's contention that this was not an obvious substitution is not well taken" (p. 118, ll. 28 to 30). In holding thus, the Board evidently had in mind the case of *Hotchkiss* v. *Greenwood,* 11 How. 248, which held that it constitutes no invention to employ one material for the same use, in substantially the same manner and with the same effect, that other substances had been used in the manufacture of the same articles. This doctrine turns chiefly on the words *with the same effect.* The exceptions to the rule of *Hotchkiss* v. *Greenwood* are as important and as sound as the cases which follow it, and they are all predicated on the obtaining of a *new or improved effect,* either in lieu of or in addition to the same (and expected) effect. These cases began with *Hicks* v. *Kelsey,* 18 Wall. 670, and continue to this one. In the case of *Smith* v. *Goodyear Dental Vulcanite Co.,* 93 U. S. 486, the Court said:

> "It is evident that this is much more than employing hard rubber to perform the functions that had been performed by other materials, such as gold, silver, tin, platinum, or gutta-percha. A new product was the result, differing from all that preceded it, not merely in degree of usefulness and excellence, but differing in kind, having new uses and properties" (p. 494).

So in this case, appellants' invention goes far beyond the employment of vinyl resins to achieve the same results as were secured by Humpert with his shellac (or the other patentees with their waxes and gelatin), and they obtain results both unforeseeable and different in kind from those obtainable through the use of the expedients of the cited prior patents.

Much of the testimony taken by appellants in the Court below was directed to the establishment of the peculiar utility and novelty of this invention in commercial forms. This was necessary. The new food packages of this invention cannot be characterized in a laboratory to show that they have superiority over all others. Their utility is founded on lasting protection of the package and food in actual use, and the differences in kind achieved by the food packages of this invention were but a hypothesis until they were proved through the critical test of succeeding in the stress of commercial competition. The evidence of the unobvious qualities of this invention must not be considered any the less compelling because it at the same time establishes commercial success.

The first striking fact brought out by the testimony below is that the inventor, and co-appellant here, Ralph B. Frazier, who was employed by a manufacturer of vinyl resins and whose job it was to develop uses for these resins, did not at once think of using them when the problem arose (p. 18, ll. 39 and 40; p. 19, ll. 2 to 6; p. 20, ll. 20 to 22). In response to the first two inquiries for coatings to protect metal foils as food wrappers, he recommended nitrocellulose (cellulose nitrate) first rather than the vinyl resins, and when the vinyl resins had been tried by him he was agreeably surprised at their success (p. 19, ll. 30 to 34). Cross examination on behalf of the appellee served only to reinforce this fact, namely, that it was not obvious to one familiar with them that vinyl resins had any qualities to favor their use in food packages (p. 20, ll. 30 to 35).

Not only was it unobvious to those skilled in the art to even *try* the vinyl resins for this purpose, but the unique results which they brought about were equally remote from imagination of those engaged in the subject and fully as unobvious. Mr. Stoner, whose business is the selling of coatings for various purposes, testified that he knew of no other product which will serve the purpose of making these new food packages, yet he stated that other cheaper materials are available for many other purposes (p. 22, ll. 3 to 7). In connection with the extremely sensitive product, beer, Mr. Stoner testified that nine or ten years of work on the problem had brought forth no material which would allow beer to be successfully contained in a metallic package (p. 22, l. 38, to p. 2, l. 4). Yet in the year prior to his testimony, between 600 million and three quarters of a billion beer cans were produced in accordance with this invention (p. 21, ll. 30 and 31), despite the fact that it is more expensive to use than other standard coatings which might replace vinyl resins as equivalents for *ordinary* purposes (p. 21, last line, to p. 22, l. 7).

There were introduced in evidence aluminum foil capsules containing butter coloring which, by direct comparison, showed that foil alone failed whereas the foil coated with vinyl resin was satisfactory for years (Exs. Nos. 1 and 2, introduced at p. 22). Three packages of commercial cheeses packaged according to this invention (Ex. No. 6, introduced at pp. 23 and 24) were produced, and the witness stated that 25 or 30 different brands also are so packaged (p. 23, l. 41). Six different brands of beer in cans formed according to the invention were received in evidence (Exs. Nos. 9, 10, 11, 12, 13, and 14, introduced at p. 30), and, as will appear from the article in the magazine, Fortune (Ex. No. 3, introduced at p. 22), at least 23 breweries have adopted this invention as a superior package for the beverage (p. 84, col. 1, par. 2, of Fortune for January, 1936, Ex. No. 3, introduced at p. 22 of the Record). The reasons for the vast superiority of tinned cans lined with vinyl resins according to this invention as containers for a delicate and difficultly preservable product, such as beer, are many. These were enumerated by Mr. Doolittle, an expert in the art whose qualifications were not questioned by the appellee (p. 30, l. 37, to p. 31, l. 2). They are further enumerated in the Fortune article (Ex. No. 3, introduced at p. 22).

No reason for the actual advantages of vinyl resins as a material for lining the cans to give this superiority to the new food packages can be pointed out. It is one of those phenomena of nature which thus far elude scientific rationalization. This, of course, does not militate against the inventiveness of the new device. Many more worthwhile inventions are the result of happy thought than of logic and deduction, and no system of patent law can properly condemn the inspirational flashes that create new advances. It is in some small measure due to the remarkable water resisting qualities of the vinyl resin coatings. As compared with such previously used coatings as shellac (Humpert patent 1,765,920, p. 108), this water resistance is tremendous and was demonstrated by Mr. Doolittle's tests (p. 28, l. 6, to p. 29, l. 2; Exs. Nos. 7 and 8, introduced at p. 28, reproduced at pp. 89 and 91). But not all of the success and merit of the new food packages can be ascertained to be a result of this remarkable water resistance. Other materials are equally as water resistant, but no substitute capable of protecting difficultly preservable foods is known. It may be a result of the integration of a large number of more or less intangible qualities of toughness, strength, flexibility, odorlessness, lack of taste, chemical inertness, water resistance, and so on. Whatever the explanation, and irrespective of whether or not it ever be known, the novel and unobvious results secured are apparent and have been fully established on behalf of the appellants.

Appellants respectfully submit that the new and unobvious results which their proofs have shown to be secured through this invention clearly entitle them to a patent. This position, it is submitted, is well supported by precedent. In the case of *In re Harbeck,* 39 App. D. C. 559, a similar situation prevailed. There the invention was a package also for foods and the like, and the novelty resided in the use of a fused adhesive for uniting layers of paper to form a can body where soluble adhesives had previously been employed. Mr. Justice Van Orsdel said:

> "This, we think, conclusively confirms appellant's right to a patent. While the use of new materials to produce a known result, or of known materials to produce a new but obvious result, may not always constitute invention, if the new idea, when applied, brings success out of failure, produces a new and useful result and saving in operation or production, or efficiency instead of inefficiency, gives to the device new functions and useful properties, it is invention, and may be patented. Appellant has met these requirements. His situation as disclosed by this record, is most aptly stated in Loom Co. v. Higgins, (C. D., 1882, 285; 21 O. G. 2031; 105 U. S., 580)."

In the *Harbeck* case as here, the references cited indicated the antiquity of the art, but the step taken by the appellant seemed not to have suggested itself to any earlier worker. As was there said:

> "It is easy to dispose of a case, where the issue of invention is close, by holding that the advance over the prior art constitutes a mere mechanical change apparent to those skilled in the art. But, in the absence of proof to support this conclusion, and where the question of patentability is close, the doubt should be resolved in favor of the applicant. (*In re Eastwood,* C. D., 1909, 418; 144 O. G., 819; 33 App. D. C., 291)."

Appellants respectfully insist that in the present case there is no proof to support the appellee's contention that the new food packages are an obvious way of achieving the result. The proofs, in fact, are all to the contrary. Clearly there is a doubt, and in such case it should be resolved in favor of appellants. In the case of *Magowan* v. *New York Belting* Co., 141 U. S. 332, Mr. Justice Blatchford voiced the opinion of the Supreme Court in these words (p. 343):

> "It is remarked by Judge Nixon in his opinion, as a fact not to be overlooked and having much weight, that the Gately packing went at once into such an extensive public use, as almost to supersede all packings made under other methods; and that that fact was pregnant evidence of its novelty, value and usefulness. *Smith* v. *Goodyear Dental Vulcanite Co.,* 93 U. S. 486, 495, 496; *Loom Co.* v. *Higgins,* 105 U. S. 580, 591. It may also be added, that the evidence shows that the Gately packing was put upon the market at a price from 15 to 20 per cent higher than the old packings, although it cost 10 per cent less to produce it."

Appellants' invention has achieved the success emphasized by the evidence below despite *actual increased cost to the users and makers* of the food package. This, it is submitted, is "pregnant evidence of its novelty, value and usefulness" sufficient to resolve all doubts for appellants.

The rule of the United States Patent Office is not different from that which appellants urge should be applied here, and this is shown by the case of *Ex parte Joseph and Nedvidek,* 25 U. S. P. Q. 20, 22, decided August 15, 1934 by the Patent Office Board of Appeals. It clearly was error for the appellee to have failed to follow that rule in the present case. Many other cases, including *In re Huff,* 48 App. D. C. 258; *In re Wilson,* 49 App. D. C. 76; 258 Fed. 976, 977; *In re Sorum,* 49 App. D. C. 360; 265 Fed. 1000, 1002; *Yablick* v. *Protecto Safety Appliance Corp.,* 21 F. (2d) 885, 887 (C. C. A.); and *United Shoe Machinery Corp.* v. *E. H. Ferree Co. et al.,* 64 F. (2d) 101, 103 (C. C. A.), express the same view. As recently as December 7, 1936, this doctrine was reiterated in the case of *Gasoline Products Co., Inc.* v. *Coe,* 66 App. D. C. 333; 87 F. (2d) 550, in which the subject matter in issue was an invention involving the use of chromium alloy tubes to avoid sulfur corrosion in an oil cracking process. The use of plain steel tubes in this use was old, and the art showed that chromium alloys generally have improved resistance to corrosion of certain types. In the opinion of this Court, however, since nothing in the art showed it to be common knowledge that chromium alloys are resistant to sulfur corrosion, the invention was patentable. Mr. Justice Stephens said (87 F. (2d) at 557):

> "We think therefore that even within the defendant's view of what the art taught broadly, the undisputed evidence in the case concerning the advantages obtained by using chromium alloy tubes in the oil cracking process entitles the applicant to a patent. He clearly accomplished at least 'an increase of efficiency' and 'a decided saving in the operation' within the language of Hicks v. Kelsey. Within the words of Low v. McMaster: his machine has acquired 'new properties and uses'; his 'is the first practical success in the art in which the substitution is made'; and 'the practice shows its superiority to consist not only in greater cheapness and in greater utility, but also in more efficient action, * * *.' "

The circumstances in the present case bring it squarely within the holding in the case just discussed. Vinyl resins are well known as coating materials, and they are known to be resistant to moisture. Other coatings, such as shellac, are known as coatings for metal parts of food packages. But can it safely be said that appellants taught only a mechanical change, and made only the obvious substitution in the art in the face of the undisputed evidence of the advantages obtained, the new properties and uses acquired, and the fact that theirs "is the first practical success in the art in which the substitution is made"?

In combining, as was done here, the seven cited prior patents, the appellee has reached a mere *nunc pro tunc* solution of the problem first solved by appellants' invention. This form of retrospective reasoning, based on knowledge acquired *after* the invention was made and disclosed, is intolerable in the correct application of the principles of our patent law. This is aptly expressed in the decision in *In re Wescott,* 53 App. D. C. 34; 287 Fed. 1009, wherein Mr. Justice Robb stated (287 Fed. at 1011):

> "A reading of the decisions of the three tribunals of the Patent Office reveals that, in this obscure and highly technical art, they have reached a conclusion adverse to the applicant because, in the light of his disclosure, they are of the view that any one skilled in the art could have taken the various references (no one of which is in itself sufficient) and achieved the result reached by him. While a post mortem diagnosis may be valuable, it hardly will be denied that a timely diagnosis, resulting in the saving of life, is of much greater value. There is the same difference in the relative values of an original or real invention and one of the post mortem sort. The one involves the exercise of creative genius or power; the other mere deductions. In re Sorum, 49 App. D. C. 360, 265 Fed. 1000."

Numerous decided cases emphatically repeat this rule in one way or another. These include *In re Lower,* 50 App. D. C. 159; 269 Fed. 675, 676; *In re Prescott et al.,* 51 App. D. C. 281; 278 Fed. 590, 591; *In re Coley,* 40 F. (2d) 982, 986 (C. C. P. A.); and *In re Dann,* 47 F. (2d) 356, 358 (C. C. P. A.).

On this state of facts and following the precedent of these recognized cases, appellants respectfully urge that the position of the appellee in refusing the allowance of the claims on the seven unrelated cited patents is untenable. It is submitted that the claims to appellants' invention should be granted, and that the conclusion of the law (p. 11) that these claims are not patentable reached by the Honorable District Court was error which should be reversed.

It has been shown that appellants' new food package has achieved substantial commercial success solely as a result of its merit; that it has been accepted in *advance of* advertising or publicity; and that it has no known counterpart despite the strong incentive to find one because of its higher costs. In the case of *Wach* v. *Coe,* 64 App. D. C. 235; 77 F. (2d) 113, at page 115, this Court held that "Evidence of great utility of a device may in some circumstances be accepted as evidence of invention". Appellants earnestly submit that the circumstances here plainly are such as to permit the evidence of utility adduced by them to be accepted as cogent evidence of invention. The same case *(Wach* v. *Coe)* presents another analogy of fact which brings it into close alignment with the instant case, to wit, there also the defendant-appellee denied the patent over a collection of references from which, mosaic-like, the invention was constructed. That was characterized by Mr. Justice Robb in the following language (77 F. (2d) at 115):

> "Where, as here, the new device is also useful and marks a distinct and novel advance in the art, it should receive patent protection. For almost 25 years, as we have seen, patents have been granted in this art on devices that proved to be practically worthless, and yet appellant has been refused a patent on his successful device because the Patent Office has found that, by taking this and that from the unsuccessful patents, the result achieved by appellant could have been accomplished."

As remarked above, the Kratz patent 1,837,555 proposes vinyl resins to be the equivalent of cellulose nitrate as a coating material (p. 111, l. 22 of the patent), and the Klatte *et al.* patent 1,241,738 states that vinyl resins are celluloid substitutes (p. 98, l. 28 of the patent). Celluloid, celluloid substitutes and nitrocellulose are one and the same substance. But nitrocellulose will not replace vinyl resins in the food packages of this invention (p. 19, ll. 21 and 22). Nitrocellulose failed when tested. Yet the inventor and co-appellant supposed, *in advance of actual trial and test,* that vinyl resins were no better than nitrocellulose for purposes of coating metal food packages. This, it is submitted, is full answer to the appellee's contention that the invention here was a mere obvious expedient. These facts conclusively establish appellants' position that new and unobvious results are secured and that the new food packages are patentable.

Appellants have shown that the invention in issue is novel and useful, and that it creates a marked advance in the art. The evidence is unrebutted and wholly credible. It preponderantly establishes the unique qualities of the new food packages for which a patent is sought. Authoritative precedent fully supports each contention advanced by the appellants, and gives firm support to their contention that the Honorable District Court erred in dismissing their Bill of Complaint and concluding this invention not to be patentable. It is accordingly respectfully urged that the facts clearly establish appellants' right to have Letters Patent issued for the claimed invention.

Summary and Conclusion.

Appellants seek a patent for certain novel food packages defined by claims 4, 5, 6, 7, 8, 11, 13, 14 and 22 of application for Letters Patent Serial No. 605,129 filed by the appellant, Ralph B. Frazier. These novel food packages are formed of a metal packaging material, such as a tinned can or a foil wrapper, having the surface adjacent the enclosed food product formed of or coated with a vinyl resin composition.

These food packages are contended by the appellee to lack invention over seven prior patents. Four of these are directed to metal foils for wrapping foods associated with coatings of wax, gelatin or shellac, and the remaining three describe the use of vinyl resins for coating various articles. It is appellee's position that the new combination of vinyl resins with metal materials to form a food package is an obvious substitution of the vinyl resins for the other types of coatings shown by the older patentees.

Appellants contend the appellee's position is without merit. It is contrary to a great weight of unimpeached and completely credible evidence. It was shown that it was not obvious even to those familiar with vinyl resins that these had any suitability for the use involved by this invention (p. 19, ll. 30 to 33; p. 20, ll. 30 to 35), and that their use was not obvious to those skilled in the coating art and acquainted with the need for food packages of this type (p. 26, ll. 1 to 5; p. 30, ll. 8 to 13). It was also shown that in many uses where the exceptional qualities of the new food packages are employed this invention has no counterpart,—*nothing else will serve the purpose* (p. 22, ll. 38 to 40; p. 23, ll. 10 to 12; p. 24, ll. 16 to 21). The food package of this invention achieved remarkable success despite an increase in price to the user and in advance of advertising. The invention has had wide acceptance in the art on its merit alone. In the packaging of such difficultly preservable beverages as beer, it brought success out of failure and made possible a new advance in the art of packaging this commodity.

The law recognizes as invention that which is new and useful and which creates something not possible before. Patentability may reside in the substitution of one material for another where that substitution effects a change in kind, and brings forth new and unobvious results. (*In re Harbeck,* 39 App. D. C. 559; *In re Huff,* 48 App. D. C. 258; *In re Wilson,* 49 App. D. C. 76; 258 Fed. 976, 977; *In re Sorum,*

49 App. D. C. 360; 265 Fed. 1000, 1002; *Gasoline Products Co., Inc.* v. *Coe,* 66 App. D. C. 333; 87 F. (2d) 550, 556-7; *Hicks* v. *Kelsey,* 18 Wall. 670; *Smith* v. *Goodyear Dental Vulcanite Co.,* 93 U. S. 486, 494; *Yablick* v. *Protecto Safety Appliance Corp.,* 21 F. (2d) 885, 887 (C. C. A.); and *United Shoe Machinery Corp.* v. *E. H. Ferree Co., et al.,* 64 F. (2d) 101, 103 (C. C. A.).)

A valuable change in the art is invention and is patentable in spite of available art where extensive reconstruction of the references in the light of the accomplished result of the invention must be resorted to for an anticipation. (*Wach* v. *Coe,* 64 App. D. C. 235; 77 F. (2d) 113, 115; *Magowan* v. *New York Belting Co.,* 141 U. S. 332, 343; and *Yablick* v. *Protecto Safety Appliance Corp.,* 21 F. (2d) 885, 887 (C. C. A.).)

The record in the present case speaks strongly for patentability in the subject matter claimed. The appellee has taken no testimony and has called for no affidavits to rebut the facts proved on behalf of the appellants. The change made by appellants may seem slight, and now may appear obvious, but such is not the case. The inducement to make the change, to achieve appellants' results, was strong, but the inescapable fact remains that it was not earlier done. No one of the prior patents cited fairly suggests the novel food package, and no reasonable basis for finding it in the varied references and disclosures has been advanced. Under these circumstances, and for the reasons presented, appellants respectfully submit that the appellee has wrongfully withheld a patent for this invention.

Wherefore, appellants urge that the decree of the Honorable District Court be revised and reversed.

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UNITED STATES
COURT OF APPEALS FOR THE
DISTRICT OF COLUMBIA
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No. 7029

In the United States Court of Appeals for the District of Columbia

April Term, 1937

Carbide and Carbon Chemicals Corporation, and
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appellee

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

BRIEF FOR THE COMMISSIONER OF PATENTS

R. F. WHITEHEAD,
Solicitor, United States Patent Office.

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APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

BRIEF FOR THE COMMISSIONER OF PATENTS

This is an appeal by the Carbide and Carbon Chemicals Corporation et al., plaintiffs below in a suit brought under the provisions of section 4915 R. S. (U. S. C., title 35, section 63) from the decree of the District Court dismissing the Bill (R. p. 11).

The suit involved an application for patent filed by Ralph B. Frazier for a patent on an improvement in food packages, which application was assigned to the co-plaintiff, Carbide and Carbon Chemicals Corporation.

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The Frazier application discloses a composite material which is to be used in packaging food products. The particular materials disclosed are metal foils coated with a vinyl resin and metal cans lined with such resins, and the particular food products referred to in the application are cheese and orange juice.

The claims in suit are numbered 4 to 8, inclusive, 11, 13, 14, and 22. Of these claims 4, 5, 6, and 7 are directed to a food package, not specifying the food product therein. Claim 11 is for a process of packaging food, claims 13 and 14 are for a food package specifying cheese as the article packed and claim 22 is for a process of packaging cheese.

All the claims were held unpatentable by the Patent Office on the ground that, as abundantly shown by the prior art, it was old to wrap food in a wrapper such as tin foil coated with paraffin or tin foil which was afterwards sealed with paraffin and tin foil on which a shellac solution had been put, and that the characteristics of vinyl resin were known as shown by the patent to Klatte et al., No. 1,241,738 (R. p. 98), and the patent to Young et al., No. 1,775,882 (R. p. 109), and therefore there was no invention in using vinyl resin as a wrapping material or to be placed on the material confining the food, especially in view of the patent to Kratz, No. 1,837,555, which discloses the coating of gelatine base for a wrapper with a vinyl compound, specifically vinyl acetate or vinyl chloride.

It is deemed to be well settled that it is not invention to make a known article out of a different material from that of which it had previously been made, or to substitute one material for another in the given relation, where the known characteristics of the material would have told the interested public that the substitution would be a useful one.

The Klatte et al. patent describes, at length, the making of vinyl resins and the polymers thereof and describes many of the characteristics of the vinyl resins, for example, that the vinyl resin may be used for coating, painting, or impregnating purposes and that it is capable of resisting the action of water, acids, alkalis, and atmospheric changes.

One of the reasons stated in the application in suit for using a vinyl resin in the wrapper of a food package was that it was resistant to the acids of the foods such as cheese.

It may be noted that primarily the application refers to a food package and particularly to a package of cheese, and while there is a reference to coating a can with vinyl resin where the can is designed to contain an article such as orange juice, the testimony as to the commercial use of the vinyl resin is largely as to its use in forming a lining for beer cans.

Appellants in their brief have pointed out in great length that the individual references do not anticipate the claims in the sense that they show a food package wrapped with a wrapper formed exactly as described in the application.

That is true, but no rejection has been made in this case on the ground that any one of these references shows a package in which cheese had been wrapped with exactly the kind of wrapper described in the application in suit. However that fact is not controlling on the question of patentability. It is not necessary that there be a lack of novelty in order that a patent may be properly refused, or a patent be held invalid.

In a long line of decisions by the Supreme Court of the United States it has been held that novelty and utility alone will not support a patent even though the device of the patent is specifically an improvement over what has gone before; but that there must be found the added quality of invention, that is, it must be found that the making of the machine or article claimed, or the carrying out of the process, was something that could have been done only by an act of invention and not by mere mechanical skill.

It is necessarily only to cite the two very early decisions of the Supreme Court, viz, *Thompson* v. *Boisselier,* 114 U. S. 1, 1885 C. D. 224, and *Pearce* v. *Mulford,* 102 U. S. 112, 1880 C. D. 667, and the comparatively recent decision in *Altoona Publix Theatres* v. *American Tri-Ergon Corporation,* 294 U. S. 477, 1935 C. D. 785, to show the correctness of the above statement.

It may be noted that the description given of the manner of forming the resins and their characteristics given in the application in suit might almost literally have been taken from the disclosure of the Klatte et al. patent. It is further to be noted that the witness Frazier testified that in 1922, when he claims to have made the invention in suit, he was employed by the Carbide and Carbon Chemicals Corporation on their fellowship at the Mellon Institute, and that when an inquiry was received from the Pabst Company for a coating for foil to be used in packaging cheese he suggested vinyl resin as the coating for the foil, and on cross-examination he admitted (R. p. 20) that his reason for suggesting it was that it was probably the clearest and cleanest looking resin he had ever seen and that it was odorless and colorless and further "the odorless characteristic, I think, led us to use it."

There have been a long line of decisions, both of this court and other courts, on the question whether it is invention to use a new material for a specific purpose. It is submitted, as stated above, that the outstanding test in all those decisions is, was there anything in the prior art or in the article itself to teach the desirability of using it in the particular situation and that, if such teaching were found, then the claims involved are not patentable. Such decisions are:

In re Berry, 58 App. D. C. 234, 26 F. (2d) 1012, in which it was held that it was not invention to make a packing ring of carbon or graphite so as to require no lubrication instead of a material which required lubrication, where it was well known the use of a lubricant was unnecessary where the surface was made of graphite.

In re Byck, 48 F. (2d) 665, 18 C. C. P. A. 1208, in which the Court of Customs and Patent Appeals held that it was not invention to use in an insulating coil, an insulating medium for which the applicant held a patent.

In re Hull, 75 F. (2d) 847, 22 C. C. P. A. 1071, in which it was held not patentable to make a pulley with a rough surface plated with chromium, it being admittedly old to form pulleys with rough surfaces and old to plate articles of various kinds with chromium so as to increase their wear resisting quality.

In *Union Hardware Co.* v. *Selchow,* 112 Fed. Rep. 1006, there was held to be no invention in making a roller skate truck of sheet metal in lieu of the cast metal of which the trucks had formerly been made. That case is of particular interest because Judge Coxe, afterwards of the Circuit Court of Appeals of the Second Circuit, contrasted its holding with the holding made at the same time in *George Frost Company* v. *Cohn et al.,* 112 Fed. Rep. 1009, in which he held that it was invention to cover the button of a garter with rubber.

In those two decisions the court points out the reasons for reaching the conclusion in the first case of unpatentability and in the second case of patentability.

In *American Can Co.* v. *Mulkey Salt Co.*, 264 Fed. Rep. 977, it was held not to be invention to make a can of duplex board united by fused cement where such board had been used for other purposes.

It is of interest to note that the patent in suit was granted in view of the decision of this court in *In re Harbeck,* 39 App. D. C. 555, the Federal Court stating in its decision that patents with reference to the duplex board had been introduced in evidence which were not before this court in the *Harbeck case.*

In *Westinghouse* v. *Formica,* 272 Fed. Rep. 667, it was held to be no invention to make gears of bakelite micarta, which is a form of the well known bakelite, instead of hard fibre.

Much is said in the brief about commercial use of the device, but it is settled by a long line of decisions that commercial use, while a matter to be taken into consideration, is not conclusive on the question of invention and that it can never be given weight unless the question of invention is doubtful. As has been said in one case, commercial use can not create a doubt and also resolve it in favor of patentability.

In the *Altoona Publix Theatres case, supra,* the Supreme Court said:

> But we think that want of invention would have to be far more doubtful than it is to be aided by evidence of commercial success, indicating that it brought realization of a long-felt want. [Citing decisions.]

It is well settled that a suit under 4915 R. S. seeking to have the decision of the Patent Office refusing a patent overruled, may be likened to a suit to set aside a judgment and that the burden is upon the plaintiff to show clearly that the refusal of a patent was erroneous. This burden, it is submitted, is all the greater because the District Court refused to render a decree authorizing the issuance of the patent.

That such a burden rests upon the plaintiff is shown by the decisions of this court in *Austin et al.* v. *Coe,* 63 App. D. C. 94, 69 F. (2d) 832, 1934 C. D. 53, and the decision of this court of September 13, 1937, in *Battery Patents Corp.* v. *Coe,* — App. D. C. —, — F. (2d) —, 484 O. G. 257.

It is submitted that there was no error in the action of the court below in refusing to authorize the issuance of a patent to plaintiff and that the decree of that court dismissing the bill should be affirmed.

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